

State of New Jersey        )  
                                  )       ss:  
County of Somerset        )

REPLY AFFIDAVIT OF DAVID ROBINSON

DAVID ROBINSON, being duly sworn, deposes and  
says:

1. I am a District Manager in AT&T Corp.'s Consumer Sales Division, responsible for managing all aspects of AT&T's payphone station placement operations. On August 26, 1997, I submitted an affidavit in support of AT&T's comments in response to the Commission's Public Notice, 97-1673, dated August 5, 1997, which explained the significant differences in the costs of providing different types of calls from payphones. The purpose of this reply affidavit is to respond to the comments of various PSPs who submitted data on payphone costs.

2. My initial affidavit showed that the costs to a PSP of handling a coinless call are slightly less than 11 cents per call. It also showed that if the Commission were to base its compensation amount on the cost of a local coin call less the costs of coin-related functionalities and the costs of call completion for local calls, the local coin price should be discounted by at least 45 percent, not including factors relating to excessive commissions and profits. My analysis was based on data obtained from

operating a base of 29,000 AT&T payphones, including "smart" coin phones and several types of coinless phones, including the "11-A"-type coinless phone, which are used by many PSPs. I also based my analysis on my industry experience with, and publicly available information regarding, "dumb" coin phones. After reviewing the data submitted by PSPs on remand, it appears that my cost estimates for coin-related costs are generally comparable to the costs provided by the PSPs. As shown below, on a cents-per-call basis, there is little difference between AT&T's costs by expense category and the costs submitted by the other PSPs. Moreover, based on my 10 years of experience in the payphone business, including manufacturing and product management, and the data submitted in the PSPs' comments, I conclude that the costs attributed solely to coin calls range from 12.5 to 17.5 cents per call.

3. The comments of the RBOC/LEC Coalition, the APCC, CCI, and Peoples Telephone, which collectively represent the owners of the vast majority of payphones in the United States, demonstrate that most of the costs of payphone operations are consistent regardless of where payphones are geographically located. These PSPs have also presented costs which are generally consistent with the monthly costs I presented in my initial affidavit regarding the costs of coin collection and maintenance and repair for

coin collection. Their stated costs attributable to staff, overhead, and general/administrative expenses for coin phones and taxes are also generally reasonable, and I have adjusted my calculation of the costs of local coin calls to reflect these amounts. However, some PSPs have reported amortization and per call compensation collection costs that are excessive and should be excluded when calculating the default payphone compensation rate. The PSPs have also presented the actual costs for local usage which must be attributed solely to coin calls.

#### Coin Collection

4. The PSPs' per call costs for coin collection and counting range from 2 cents to 3 cents per call (see RBOC/LEC Coalition, Andersen Report, p. 4 (average per call avoided cost of coin calls is 2 cents); APCC, p. 14 (3 cents), Peoples, p. 13 (3 cents))<sup>105</sup> which is consistent with my calculation of approximately 3 cents per call.

#### Maintenance and Repair

5. Although the RBOC/LEC Coalition did not submit information about the cost to maintain payphones, Peoples and CCI reported combined maintenance and collection costs of 6 to 7 cents per call. Based on Peoples' cost of 3

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<sup>105</sup> CCI indicated (p. 9) that its maintenance and collection costs for coin calls is six cents per call.

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cents per call for coin collection (p. 13), its disaggregated maintenance cost is 3 cents per call.<sup>106</sup> Although APCC did not report a specific maintenance cost, it did report in its survey results that PSPs have "other direct expenses" of \$46.00 per phone, which when divided by its indicated 689 calls per phone, is equivalent to approximately 6 cents per call (Attachment 1, p. 3). APCC did not define this category of costs, but I conclude that it must refer to coin collection and maintenance costs, because they are not otherwise accounted for. Based on APCC's reported coin collection cost of 3 cents per call, its maintenance costs should also be at least 3 cents per call.

6. While all payphones require maintenance, as I explained in my initial affidavit, it costs significantly more to maintain coin phones than coinless phones because the coin-handling parts (the slot, the coin return and the strong box) can jam frequently and also cause the phone to be subjected to vandalism and theft. I also agree with

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CCI does not indicate the portion of this cost is attributable to coin collection.

<sup>106</sup> Because CCI did not report a specific coin collection cost, I cannot determine CCI's disaggregated per-call maintenance costs, but I believe it should be comparable to Peoples' costs.

CCI's statement (p. 14) that most coin phones owned by PSPs are installed outdoors and are therefore subject to higher maintenance costs than coinless phones. In my experience, it is reasonable to attribute approximately two-thirds of payphone maintenance costs to the coin aspects of the phone. Accordingly, the coin-related maintenance costs for these PSPs would be approximately 2 cents per call, which is comparable to my cost calculation of 2.6 cents per call for maintenance costs related specifically to the coin costs of a payphone.

Staff/Overhead/G&A/Taxes

7. Except for the RBOC/LEC Coalition, which again did not provide any detailed cost information, the PSPs uniformly report overhead and general/administrative ("G&A") costs of 4 cents per call; and they also include separate amounts for taxes. (APCC Attachment 1, p. 3; Peoples, p. 10; CCI, p. 10). My initial analysis included a staff/overhead category that covered the costs associated with providing product management, customer service, technician support, and computer operations, in addition to personnel expenses. Based on the overhead cost data submitted by the PSPs and publicly available PSP cost information, I believe it is appropriate to add an additional amount to my staff/overhead/G&A costs to account for additional G&A expenses attributable to expenses such as

legal, public relations, executive loadings, and that it is also appropriate to add an additional amount for taxes.

8. I accept the submissions from CCI, Peoples and APCC which show 4 cents for staff/overhead/G&A costs for coin calls, because both of these PSPs have installed coin phones almost exclusively. In addition, both CCI (p. 10) and Peoples (p. 10) reported per call tax costs of 1 and 2 cents, respectively. I believe 1 cent per call is reasonable for coin call tax costs. My initial costs for staff/overhead/G&A for coin calls was 2.7 cents per call. By increasing this amount to 4 cents and then adding 1 cent for taxes, I yield a cost of 5 cents per call for overhead, G&A and taxes associated with coin calls.

9. My initial costs for staff/overhead/G&A for coinless calls was 1.3 cents per call. For coinless calls, I believe it is reasonable to add .7 cents per call (or approximately 50 percent of the additional coin cost for staff/G&A/overhead) to account for any overhead costs I may have excluded in my initial analysis. For the tax attributable to a coinless call, I conclude that it is appropriate to add an amount of .5 cents. I reach this result as follows: if a coin call generates a 1 cent per-call tax liability, a coinless call, which has 50 percent less costs should generate approximately one-half the revenue of coin calls, assuming the same mark-up for both

types of calls. Thus, on a per-call basis, a coinless call would incur a tax cost of .5 per call. Adding tax to staff/overhead/G&A then yields a cost of 2.5 cents per call for coinless calls. This is approximately one-half the cost of coin calls because, as I explained in my initial affidavit (p. 8-9), the overhead expenses associated with coin calls are about twice that for coinless calls.

#### Local Call Completion

10. Based on direct information provided both by APCC (Attachment 2) and the RBOC/LEC Coalition (Andersen Report, p. 4), where LECs charge separately for the costs of local coin call completion, the per-call charges typically range from about 5 to 8 cents per call. Indeed, the RBOC/LEC Coalition indicates that some of its members charge 7 to 8 cents per call for local usage. These are clearly costs associated with completing local coin calls regardless of how the LEC charges for them.

11. Due to a lack of exact information in my prior affidavit, I indirectly calculated local usage costs was approximately 2 cents per call. Based on the actual rates submitted by the PSPs, it is now clear that my analysis was in error, and that a PSP should incur costs of 5 to 8 cents per call for local call completion.

### Depreciation/Interest

12. The PSPs have reported depreciation costs that average approximately 5.5 cents per call (APCC Attachment 1, p. 1; CCI, p. 10; Peoples, p. 10<sup>107</sup>) as compared to my figure of 2.9 cents per call for coin calls and 1.6 cents per call for coinless calls (Robinson Affidavit, para. 10). I do not know for certain the assets to which the PSPs' depreciation amounts relate. However, my earlier calculations included the depreciation cost for buildings and vehicles in the maintenance and repair and staff/overhead cost categories. This most likely accounts for some of the difference in the depreciation costs reported by AT&T and the PSPs. Further, as I also explained in my initial affidavit (paras. 4-5, 10), the depreciation/interest cost per call for coin calls is higher than for coinless calls because coin equipment is more costly. I therefore believe that my original depreciation/interest costs are accurate. The difference between 2.9 cents per call (for coin calls) and 1.6 cents per call (for coinless calls) is 1.3 cents per call. Thus, it is reasonable to attribute at least 1 to 2 cents per call in depreciation costs solely to coin operations.

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<sup>107</sup> Peoples submitted 9 cents per call for depreciation, which should be decreased by approximately 3 cents

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### Amortization

13. The PSPs have also reported costs for "amortization" which are excessive and should not be included in the compensation rate. For example, CCI states (p. 9) that its amortization costs are 2 cents per call; APCC (Attachment 1, p. 1) includes 2.7 cents per call as "interest expense and bank fees," which are presented separate from depreciation expense. Peoples listed a cost of 9 cents per call for depreciation/interest. I believe, 3 cents of that amount is attributable to amortization, including "location contracts, goodwill and non-competition provisions."<sup>108</sup> I believe that these amortization costs are attributable to the speculative buying of locations. Most of the IPPs supplying cost estimates acquired their large base of phones via a series of acquisitions. Published reports indicate that payphone locations sell for approximately \$2,000 to \$5,500 per phone,<sup>109</sup> which represents

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attributable to amortization. See Peoples Telephone Company, SEC Form 10-Q, Sept. 30, 1996, at p. 14.

<sup>108</sup> Id. Based on Peoples' reported assets of \$68.7 million in net property and equipment and \$37.2 million in location contracts, goodwill and other intangible assets (id. at p. 2), I estimate that 3 cents of Peoples' reported 9 cents in depreciation/interest is attributable to amortization.

<sup>109</sup> Bain, John S., "The Private Payphone Market Goes Public, Sort of", Phone+, July 1997, at 46.

in part the costs to the seller of commission contracts and goodwill. It is inappropriate for carriers to assume these inflated costs.

Per call "Collection" Costs

14. APCC, Peoples and CCI also seek to include compensation "collection" costs in the payphone compensation rate which they report to be between 3 cents per call (Peoples, p. 13) to 5 to 6 cents per call (APCC, p. 15; CCI, p. 9). The PSPs claim that this includes the costs they incur for payment collection, disputes and bad debt. These costs are seriously overstated. For example, a collection cost of 5 cents per call for a base of 26,000 payphones (the base of phones CCI owns) would equate to a collection staff of 31 people at a fully loaded salary of \$75,000 per year. RBOC PSPs have an average payphone base of approximately 200,000 phones. Although the RBOC/LEC Coalition presented no information on compensation collection costs, extrapolating CCI's costs to the RBOCs would equate to 238 collection personnel per RBOC. Based on my experience, it is unreasonable to assume that such a large number of people are required to manage and collect compensation payments. Indeed, AT&T uses only two<sup>1</sup> people to collect compensation for its 29,000 public phones.

15. Further, it is disingenuous for PSPs to seek to recover costs associated with compensation disputes,

because the PSPs themselves are the source of nearly all such disputes. Disputes generally arise when PSPs claim compensation for payphones they do not own (or cannot prove they own), or when multiple PSPs claim compensation for the same payphone. They also arise when the PSPs do not report area code splits or overlays affecting their phones on a timely basis. The LECs, as the suppliers of the payphone line, must provide information that identifies the PSP who owns a specific payphone. In all such cases, timely action by the PSPs to notify the LEC and secure their required proof of line ownership should avoid most problems. Unfortunately, this does not always occur in practice. Carriers, however, have no ability to assure that the PSPs take care of these problems. In addition, in some instances, the LECs are not able to provide complete line lists because PSPs do not use lines identified as payphone lines to serve their phones. Again, this situation is within the full control of the PSPs. In any case, the number of disputes should decrease steadily because the Commission now requires that once a LEC makes a positive identification of an installed payphone, the carrier must accept compensation claims for that payphone's ANI until the LEC indicates that the ANI has been disconnected. It is therefore inappropriate to include any of these alleged costs in calculating the payphone compensation rate.

16. I would also note that there is no basis for CCI's assertions (p. 11, n.14) that AT&T's tracking system is inaccurate. In April 1997, APCC's leadership team acknowledged publicly at the 1997 APCC Western Trade Show that, based on a study APCC completed during the fourth quarter of 1996, AT&T's tracking system was "very reliable" and captured 100 percent of compensable messages from randomly selected PSP phones.

Summary of Avoided Costs

18. In sum, based on my analysis, which I adjusted for local usage and additional overhead/G&A costs and taxes, the avoided costs related to coin calls are as follows:

AVOIDED COIN COSTS

<u>COST CATEGORY</u>	<u>AMOUNT</u>
Local coin usage	5 - 8 cents
Coin collection	2 - 3 cents
Coin Maintenance	2 cents
Staff /Overhead/G&A/Taxes related to coin operations	2.5 cents
Depreciation/interest for coin functionality	1 - 2 cents
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TOTAL	12.5 -17.5 cents

Accordingly, if the Commission were to base its compensation amount on the avoided costs associated with handling access

code and subscriber 800 calls, the avoided costs are between 12.5 to 17.5 cents per call.

David Robinson  
David Robinson

Sworn to and subscribed  
before me this 9th  
day of September, 1997.

Peggy Brown  
Notary Public

Peggy C. Brown  
Notary Public New Jersey  
My Commission Expires August 5, 2002

**ATTACHMENT 3**

## DECLARATION OF DR. FREDERICK R. WARREN-BOULTON

### I. QUALIFICATIONS

My name is Frederick R. Warren-Boulton. I am a Principal with MiCRA (Microeconomic Consulting and Research Associates, Inc.), a Washington-based economics consulting and research firm specializing in antitrust and regulatory matters.

I hold a B.A. degree from Yale University, a Master of Public Affairs from the Woodrow Wilson School of Public and International Affairs at Princeton University, and M.A. and Ph.D. degrees in Economics from Princeton University.

From 1972 to 1983, I was an Assistant and then Associate Professor of Economics at Washington University in St. Louis. From 1983 to 1989, I served as the chief economist for the Antitrust Division of the U.S. Department of Justice, first as the Director of its Economic Policy Office and then as the Deputy Assistant Attorney General for Economic Analysis. Since leaving the Department of Justice, I have served as a Resident Scholar at the American Enterprise Institute, a Visiting Lecturer of Public and International Affairs at the Woodrow Wilson School at Princeton University, and a Research Associate Professor of Psychology at The American University.

My area of specialization is in the economics of industrial organization. I have authored numerous publications, primarily in the application of industrial organization economics to antitrust and regulation, including a number of papers that consider appropriate public policy toward regulated industries, including telecommunications. A complete description of my background and papers can be found in my Curriculum Vita, a copy of which is attached as Exhibit A.

The purpose of this declaration is to respond to certain assertions made by Dr. Hausman on behalf of the RBOC/GTE/SNET Payphone Coalition. Specifically, I conclude that, counter to Dr. Hausman's assertions, the only way that pay phone compensation for coinless calls can be effectively constrained is through a cost-based procedure: the optimal maximum price for such compensation cannot be derived from a demand-based procedure. In addition, Dr. Hausman's estimate for the elasticity of derived demand for access is theoretically incorrect, incomplete, and biased downwards. I also conclude that any maximum price for pay phone access must be based on the *cost* of *all* calls, not on the *price* of coin calls. The maximum pay phone compensation for

coinless calls should not be linked to the price that a pay phone operator sets for local coin calls. Rather, the best methodology for estimating a cost-based maximum price for access is TELRIC, defined over all output of the pay phone (local coin and coinless toll calls) and excluding any payments to site owners.

## II. THE ONLY WAY THAT PAY PHONE COMPENSATION FOR COINLESS CALLS CAN BE EFFECTIVELY CONSTRAINED IS THROUGH A COST-BASED PROCEDURE: THE OPTIMAL MAXIMUM PRICE FOR SUCH COMPENSATION CANNOT BE DERIVED FROM A DEMAND-BASED PROCEDURE

Dr. Hausman argues that the appropriate theoretical framework for analyzing this issue is provided by Ramsey pricing, and that the application of Ramsey pricing principles here would result in a maximum pay phone compensation rate well in excess of the deregulated market rate for local coin calls. Both these assertions are incorrect.

Ramsey pricing is generally accepted by economists as the most appropriate methodology for determining the optimal pattern of prices (*i.e.*, the set of prices that maximizes total consumer welfare, subject to the constraint that the firm covers all of its efficient costs) for two or more products that are produced by a single firm with market power over those products, where there are significant common costs shared by those products and the firm is constrained by regulators to earn zero economic profits.

The two products in question here are local coin calls and pay phone access to coinless toll calls. On the demand side, local coin calls and coinless toll calls are independent goods<sup>1</sup>. However, local coin calls are effectively a final product provided by the pay phone operator, whereas pay phone access to coinless toll calls is only one input into a toll call. The pay-phone operator thus faces a *final* demand for local coin calls and a *derived* demand for pay phone access to toll calls.

In order for Ramsey pricing to be an appropriate methodology to establish the rate for pay

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<sup>1</sup> It seems unlikely that, faced with higher prices for local coin calls, a significant number of consumers would decide instead to make a coinless toll call from a pay phone or be dissuaded from making a coinless toll call from a pay phone. Similarly, it is unlikely that, faced with a higher charge for using a pay phone to place a coinless toll call, a significant number of consumers would make more or fewer local coin calls. Any relationship between the two types of calls would appear to be on the supply side only.

phone compensation, economic theory requires, as a basic assumption, that the pay phone operator have market power over both products — pay phone access to toll calls and local coin calls — so that, absent regulation of both products, the pay phone operator would earn supracompetitive profits. Under Ramsey pricing, the prices of *both* products would then be constrained by regulation, with the greatest restraint (resulting in the lowest markup over price over marginal cost) being imposed on the product with the higher demand elasticity.

In this case, however, the FCC has assumed that the local coin market is workably competitive, and Dr. Hausman accepts this as a premise throughout his analysis. But whether or not the local coin market is workably competitive, the critical point is that rates for local coin calls will no longer be constrained by regulation. This violates the basic premise of Ramsey pricing — that there are at least two regulated products provided by the same firm. Here, each pay phone operator is free to set the profit-maximizing price for local coin calls and, given independence in demand, that price — and the profits the pay phone operator earns from providing local coin calls — is unaffected by any constraint on the pay phone compensation rate, provided that the pay phone operator has decided to place a pay phone at a location.

Under the Ramsey formula, relative prices (more precisely, relative markups over marginal cost) are set proportional to relative demand elasticities. If the prices of none of the firm's products are constrained by regulation, a profit-maximizing firm will also set relative markups proportional to relative demand elasticities. For a multi-product firm with market power, relative markups over marginal cost are the same under regulation with Ramsey pricing as they would be under an unconstrained monopoly: the difference is that the prices of all the products are lower for the regulated firm. But if the price of one of the firm's products (local coin calls) is unconstrained by regulation, then application of the Ramsey formula for the optimal relative markup referenced by Hausman simply results in an estimate of the profit-maximizing monopoly price for the second product (pay phone access for coinless toll calls).

Thus, even if Dr. Hausman's estimates for the elasticity of demand for local coin calls and for the elasticity of derived demand for access to toll calls were accurate, his analysis reduces to saying that the regulators should impose a maximum price for local access equal to the profit-maximizing price. But if Dr. Hausman has accurately estimated the unconstrained profit-maximizing price for local access, then constraining the pay phone operators not to charge more than that amount would have no effect on the price for local access, since there is no evidence, or reason to believe, that pay phone operators would charge prices higher than the monopoly price. Thus, this argument reduces to a recommendation that pay phone operators simply be permitted

to charge a deregulated price for pay phone access for coinless calls, which is not the same as a competitive price. Not surprisingly, Dr. Hausman uses the term "competitive" throughout to describe any unregulated situation.

If anything has been contributed by this analysis, it is that, under the proposed analysis, the compensation received by pay phone operators would greatly exceed the incremental cost of providing access through pay phones. Moreover, the only way that the compensation level can be set by a regulator seeking to impose fair prices is through a cost-based procedure because, as should be clear from the above, the optimal maximum price for access cannot be derived from a demand-based procedure.

### **III. DR. HAUSMAN'S ESTIMATE FOR THE ELASTICITY OF DERIVED DEMAND FOR PAY PHONE ACCESS FOR COINLESS TOLL CALLS IS THEORETICALLY INCORRECT, INCOMPLETE, AND BIASED DOWNWARDS.**

Using Dr. Hausman's procedure for estimating the elasticities of final demand (for local coin calls) versus derived demand (for pay phone access to coinless toll calls) is like comparing apples and oranges. The estimate used for the elasticity of (final) demand for local coin calls implicitly incorporates the possibility that a consumer faced with higher pay phone prices could choose some other way to compete that call -- e.g., use a cellular or a non-pay phone wireline phone -- rather than not make the call. In estimating the elasticity of derived demand or local access to toll, however, Dr. Hausman implicitly assumes that the only alternative to a consumer considering making a toll call on a pay phone is not to make the call at all.

But not making the call is not the only possible response of the consumer. The consumer could make the toll call in some other way, e.g., by using a cellular phone or an ordinary home or business wireline phone. Raising the price of access through pay phones may simply induce consumers to substitute these alternative forms of access to complete a toll call. This ability is conventionally summarized by the "elasticity of substitution" between pay phone access to toll calls and other means of making toll calls: the higher the elasticity of substitution, the greater the elasticity of derived demand. Needless to say, Dr. Hausman's implicit assumption that this elasticity is zero results in a potentially very large downward bias in the estimate for the elasticity of derived demand for access.

There are two ways that one could correctly estimate the elasticity of derived demand for pay phone access. The first is to begin, as does Dr. Hausman, with the elasticity of demand for *all*

toll calls, but then estimate the "elasticity of substitution" between "payphone access for a toll call through a pay phone" and "all other inputs" (including alternatives such as access to toll calls through other means) into the "production" of a toll call.<sup>2</sup>

A second way that this bias could at least be mitigated in a practical way would be to estimate the elasticity of final demand for toll calls *placed through a pay phone*. However, Dr. Hausman has not attempted to make such an estimate. That elasticity is necessarily higher than

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<sup>2</sup> To see this, recall the formula for the elasticity of derived demand for an input, in this case access to a toll call through a pay phone [see Hicks, John R., *The Theory of Wages*, 2nd ed., 1964, p.244, or "Marshall's Third Rule: A Further Comment", *Oxford Economic Papers* 13, October 1961: pp. 261-66: for simplicity, and as appears reasonable in this case, we assume an infinitely elastic supply of the cooperant inputs]:

$$E = Ka N + (1-Ka) S$$

where:

$E$  = elasticity of derived demand for access to toll call through a pay phone

$Ka$  = share of the cost of access in the total price for a toll call through a pay phone

$N$  = elasticity of final demand for all toll calls

$S$  = elasticity of substitution between access for a toll call through a pay phone and other inputs (including alternatives such as access through other means) into the "production" of a toll call. The elasticity of substitution is defined as the percentage increase in the ratio of non-pay phone access to pay phone access in response to a one percent increase in the price of pay phone access relative to non-pay phone access.

As this formula shows, there are two ways in which an increase in the price charged by a pay phone owner for an input such as access to toll can result in lower quantities being demanded. First, the potential customer may decide simply not to make the call. Estimating this part of the response is easy if we know the elasticity of demand for a call and the share of access in the total price of a call. The second component comes from the ability of the consumer to substitute other forms of access in place of access through a pay phone.

Note that the small share for the cost of access ( $Ka$ ) results in a lower first component (the one identified by Dr. Hausman) but a larger second component (the one ignored by Dr. Hausman). The "importance of being unimportant" (i.e., the idea that the elasticity of derived demand for an input is lower, the smaller the share of the cost of that input in the price of the final product) thus only holds when the elasticity of substitution between inputs is significantly less than the elasticity of final demand. Since substitution in production is no less likely in general than substitution in demand, there is no necessary general tendency for elasticities of derived demand for inputs to be systematically less than elasticities of final demand.

the elasticity of demand for *all* toll calls.<sup>3</sup>

Absent estimates of either the elasticity of substitution, as defined above, or the elasticity of demand for toll calls *placed through pay phones*, we have no reliable estimate of the elasticity of derived demand for access for toll calls through pay phones. All that we know is that the estimate provided by Dr. Hausman is biased downward, to an unknown extent, and therefore is almost purely speculative.

#### IV. ANY MAXIMUM PRICE FOR ACCESS MUST BE BASED ON THE *COST* OF ALL CALLS, NOT ON THE *PRICE* OF COIN CALLS

(1) The maximum pay phone compensation for coinless calls should not be linked to the price that a pay phone operator sets for local coin calls.

If the pay phone compensation rate is to be established by the FCC in an amount that is lower than pay phone operators would choose to set, but pay phone operators are free to set their own price for local coin calls, then any linkage between that pay phone operator's maximum price for pay phone usage and that operator's local coin rate would be both inefficient and harmful to consumers. Tying these rates together provides an incentive for the pay phone operator to raise the price of local coin calls to *above* the level that maximizes her profits from local coin calls, because this would allow her to raise the price she is allowed to charge for access. The result is higher prices for both local coin calls (even if that market were highly competitive) and for coinless toll calls from pay phones. Any such link would thus result in harm to consumers of both toll calls and local coin calls.<sup>4</sup>

(2) The best methodology for estimating a cost-based maximum price for access is TELRIC, defined over all output of the pay phone (local and toll calls).

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<sup>3</sup> Since it would be reasonable to assume a low or even zero elasticity of substitution between access through a pay phone and a toll call through a pay phone, one could then use the share of access in the total price to estimate the elasticity of derived demand.

<sup>4</sup> Thus, if, for some reason, the Commission does link the regulated price of access to the coin rate, it is critical that the coin rate should be some national average or set in some way (*e.g.*, an average of national costs, excluding that operator) so that the pay phone operator treats this price as exogenous.

TELRIC is appropriate even though local coin calls and toll calls are not substitutes in demand, because costs are being averaged over an element -- the pay phone -- not a service. The analogy here is to a switch owned by an incumbent ILEC that could be used by an entrant, such as an IXC, into local exchange service. In that case, the proper price for usage of the switch would be TELRIC plus some reasonable share of joint and common costs between the switch and other elements. For pay phones, however, the pay phone stands alone, and does not share common costs with other elements, making simple TELRIC the appropriate choice.

Perhaps the easiest way to see why TELRIC averaged over the entire output of the pay phone is appropriate is to ask the same question as when determining optimal switch usage prices to be charged by an ILEC to an entrant such as an IXC: *i.e.*, what is the price that would ensure that pay phones are provided by the most efficient provider. If pay phone operators are allowed to charge a price higher than TELRIC for local access, it would be profitable, absent any barriers to entry, for a toll call carrier to vertically integrate upstream into the provision of pay phones, even if that carrier were less efficient than existing pay phone operators in the provision of pay phones.

(3) The costs included in a TELRIC analysis should not include payments to site owners.

Even if pay phone supply is highly competitive, with pay phone operators earning only a normal return on their investment, the prices of pay phone services will rise to monopoly levels if an essential input into pay phone operations is monopolized. For pay phones, this is often the case with respect to sites. The most obvious examples are prisons and airports, where site owners grant effective local monopolies in return for franchise fees or "commissions". Given competitive bidding among pay phone operators, all of the monopoly profits accrue to the site owner.

Site rents thus reflect not the cost to the site owner (which may be negative, after taking into account benefits to the site owner from the presence of a pay phone -- note that many site owners actually pay pay phone operators to install a pay phone on their premises) but rather the exercise of local monopoly power. Since, with competitive pay phone supply, payments to site owners reflect local monopoly profits, such payments are endogenous. Any regulatory mechanism that included these payments as part of the costs included in TELRIC would thus be

simply validating the site owners' monopoly power. The result would be a spiral of prices chasing "costs": Inclusion of these "costs" in TELRIC raises the allowed price, thus increasing profits, which increases site payments, which justifies a further increase in price, etc.



Frederick R. Warren-Boulton

**CURRICULUM VITAE****FREDERICK R. WARREN-BOULTON**

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**Education**

- 1975 Ph.D., Economics, Princeton University
- 1969 M.A., Economics, Princeton University
- 1969 M.P.A., (Master of Public Affairs) Woodrow Wilson School of Public & International Affairs, Princeton University
- 1967 B.A., Economics, Yale University, *cum laude* with High Honors in Economics

**Experience**

Principal, MiCRA: Microeconomic Consulting and Research Associates, Inc., Washington, D.C.; August 1991 - present.

Resident Scholar, American Enterprise Institute for Public Policy Research, Washington, D.C.; May 1989 - April 1990, Adjunct Scholar, May 1990 - present.

Visiting Lecturer of Public and International Affairs, Woodrow Wilson School of Public and International Affairs, Princeton University, Princeton, NJ; Spring Semester, 1991

Senior Vice President, ICF Consulting Associates, Inc., Washington, D.C.; November 1989 - August 1991.

Research Associate Professor of Psychology, The American University, Washington, D.C.; September 1983 - 1990.

Deputy Assistant Attorney General for Economic Analysis, Antitrust Division, U.S. Department of Justice, Washington, D.C.; October 1985 - May 1989.

## **FREDERICK R. WARREN-BOULTON**

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Director, Economic Policy Office, Antitrust Division, U.S. Department of Justice, Washington, D.C.;  
September 1983 - September 1985.

Research Associate, Center for the Study of American Business, Washington University in St. Louis;  
July 1978 - June 1985.

Associate Professor, Department of Economics, Washington University in St. Louis; July 1978 - June  
1985. Chairman, Graduate Committee, 1978 - 1980. Chairman, Undergraduate Committee,  
1980 - 1983.

Assistant Professor, Department of Economics, Washington University in St. Louis; September 1972  
- June 1978.

Assistant in Instruction, Woodrow Wilson School of Public and International Affairs, Princeton  
University, Princeton, N.J.; 1969 - 1971.

Research Consultant, Ford Foundation, Kingston, Jamaica, W.I.; Summer 1969.

### **Fields Taught**

Graduate: Industrial Organization, Economic Development and Planning, Microeconomic Theory,  
International Trade, International Finance, Economic Theories of Behavior, Applied  
Microeconomics.

Undergraduate: Government and Business, Industrial Organization, International Trade, International  
Finance, Economic Development, Intermediate Microeconomic Theory, Intermediate  
Macroeconomic Theory, Introductory Microeconomic Theory, Introductory Macroeconomic  
Theory.

### **Grants**

National Science Foundation. Grant title: "Income Maximizing in Choice and Rate Effects," 1988 -  
1991.

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National Science Foundation. Grant title: "Application of Economic Theory to Operant Schedule Effects," 1985 - 1987.

National Science Foundation. Grant title: "Income and Choice," 1983 - 1985.

### **Professional Activities**

Referee, *American Economic Review*, *The Bell Journal of Economics/Rand Journal*, *Economic Inquiry*, *Industrial Organization Review*, *Journal of Industrial Economics*, *Journal of Law and Economics*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Southern Economic Journal*.

Member, Editorial Board, *International Journal of the Economics of Business*.

Member, American Bar Association, American Economic Association, Southern Economic Association, Western Economic Association.

### **Languages**

French, German

### **Publications**

"Exclusionary Behavior in the Market for Operating System Software: the Case of Microsoft," in *Opening Networks to Competition: the Regulation and Pricing of Access*, David Gabel and David Weiman, eds.; Kluwer Publishers, 1996 (forthcoming), with Kenneth Baseman and Glenn Woroch.

"Riding the Wave: Exclusionary Practices in Markets for Microprocessors Used in IBM-Compatible Personal Computers," Conference and Festschrift in Honor of Merton J. Peck, Yale University, September 30, 1994, and *International Journal of the Economics of Business* 2-2 (July 1995), pp. 241-262, with Robert W. Wilson.